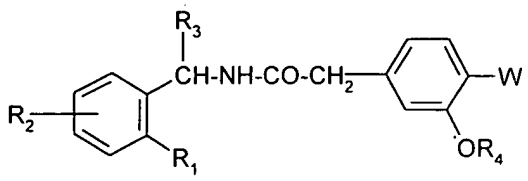
WE CLAIM:

1. A compound of the formula:



wherein

R_1 represents an unbranched alkyleneimino group with 4 to 6 carbon atoms optionally mono- or di-(alkyl of 1 to 3 carbon atoms)-substituted;

R_2 represents a hydrogen or halogen atom or a methyl or methoxy group;

R_3 represents a hydrogen atom, an alkyl group with 1 to 7 carbon atoms, a phenyl group optionally substituted by a halogen atom or a methyl or methoxy group, an alkyl group with 1 or 2 carbon atoms substituted by a hydroxy, alkoxy, alkanoyloxy, tetrahydrofuranyl, tetrahydropyranyl, cycloalkyl or phenyl group, in which the alkoxy part can contain from 1 to 3 carbon atoms, the alkanoyloxy part can contain 2 or 3 carbon atoms and the cycloalkyl part can contain 3 to 7 carbon atoms, an alkenyl group with 3 to 6 carbon atoms, an alkynyl group with 3 to 5 carbon atoms, a carboxy group or an alkoxycarbonyl group with a total of 2 to 5 carbon atoms;

R_4 represents a hydrogen atom, a methyl, ethyl or allyl group; and

W represents a methyl, hydroxymethyl, formyl, carboxyl, alkoxycarbonyl, cyanomethyl, 2-cyanoethyl, 2-cyano-ethenyl, carboxymethyl, 2-carboxyethyl, 2-carboxyethenyl, alkoxycarbonylmethyl, 2-alkoxycarbonyl-ethyl or 2-alkoxycarbonylethenyl group, in which each alkoxy part can contain from 1 to 4 carbon atoms and can be substituted by a phenyl group; and

when R_3 is other than hydrogen and/or the radical R_1 contains an optically active carbon

atom, the enantiomeres and the diastereomeres thereof or their mixtures; when W is carboxyl, a non-toxic salt thereof formed with an inorganic or organic base; or a non-toxic acid addition salt thereof formed by an inorganic or organic acid with the amino function in the R_1-position.

2. A compound of claim 1, wherein

R_1 represents a pyrrolidino, piperidino, 4-methyl-piperidino, 3-methyl-piperidino, 3,3-dimethyl-piperidino, 3,5-dimethyl-piperidino or hexamethyleneiminio group;

R_2 represents a hydrogen, fluorine or chlorine atom;

R_3 represents hydrogen atom, an alkyl group with 1 to 6 carbon atoms, a phenyl, methyl-phenyl, chloro-phenyl, methoxy-phenyl, cyclopropylmethyl, cyclobutylmethyl, cyclopentylmethyl, cyclohexylmethyl, tetrahydrofuran-2-yl-methyl, tetrahydropyran-2-yl-methyl, propargyl, hydroxymethyl, ethoxymethyl, acetoxymethyl, propionyloxymethyl, carboxy, methoxycarbonyl, ethoxycarbonyl or propoxycarbonyl group or an alkenyl group with 3 or 4 carbon atoms;

R_4 represents a methyl, ethyl or allyl group; and

W represents a methyl, hydroxymethyl, formyl, carboxyl, benzyloxycarbonyl, carboxymethyl, methoxycarbonylmethyl, ethoxycarbonylmethyl, cyanomethyl, 2-carboxy-ethyl, 2-ethoxycarbonylethyl, 2-cyano-ethyl, 2-carboxy-ethenyl, 2-ethoxycarbonyl-ethenyl or 2-cyano-ethenyl group or an alkoxycarbonyl group with 1 to 4 carbon atoms in the alkoxy part; and

when R_3 is other than hydrogen and/or R_1 represents the 3-methyl-piperidino group, the enantiomeres and the diastereomeres thereof or their mixtures; when W is carboxyl, a non-toxic salt thereof formed with an inorganic or organic base; or a non-toxic acid addition salt thereof formed by an inorganic or organic acid with the amino function in the R_1-positon.

3. A compound of claim 1, wherein

R_1 represents a piperidino group;

R_2 represents a hydrogen atom;

R_3 represents an alkyl group with 1 to 6 carbon atoms, an alkenyl group with 3 or 4 carbon atoms, a phenyl, tetrahydropyran-2-yl-methyl, cyclopropylmethyl or cyclohexylmethyl group;

R_4 represents a methyl, ethyl or allyl group; and

W represents a carboxyl, methoxycarbonyl, ethoxycarbonyl or cyanomethyl group; and

the enantiomeres thereof or their mixtures; when W is carboxyl, a non-toxic salt thereof formed with an inorganic or organic base; or a non-toxic acid addition salt thereof formed by an inorganic or organic acid with the piperidino function.

4. A compound of claim 1, wherein

R_1 represents a piperidino group;

R_1 represents a hydrogen atom;

R_3 represents an alkyl group with 3 to 6 carbon atoms, an alkenyl group with 3 or 4 carbon atoms, a phenyl, cyclopropylmethyl or cyclohexylmethyl group;

R_4 represents a methyl or ethyl group; and

W represents a carboxyl group; and

the enantiomeres thereof or their mixtures; a non-toxic salt thereof formed with an inorganic or organic base; or a non-toxic acid addition salt thereof formed by an inorganic or organic acid with the piperidino function.

5. A compound of claim 1, wherein

R_1 represents a piperidino group;

R_2 represents a hydrogen atom;

R_3 represents an alkyl group with 3 to 6 carbon atoms, a 2-methyl-1-propen-1-yl, cyclomethylpropyl or cyclohexylmethyl group;

R_4 represents a methyl or ethyl group; and

W represents a carboxyl group; and

the enantiomeres thereof or their mixtures; a non-toxic salt thereof formed with an inorganic or organic base; or a non-toxic acid addition salt thereof formed by an inorganic or organic acid with the piperidino function.

6. A compound of claim 5, wherein

R_3 represents a n-propyl, n-butyl, isobutyl, sec.butyl, n-pentyl, 2-methyl-1-propen-1-yl, cyclomethylpropyl or cyclohexylmethyl group;

the enantiomeres thereof or their mixtures; a non-toxic salt thereof formed with an inorganic or organic base; or a non-toxic acid additional salt thereof formed by an inorganic or organic acid with the piperidino function.

7. A compound of claim 5, wherein

R_3 represents a n-propyl, n-butyl, isobutyl, sec.butyl or n-pentyl group; and

the enantiomeres thereof or their mixtures; a non- toxic acid additional salt thereof formed by an inorganic or organic acid with the piperidino function.

8. The compound of claim 5, which is 2-ethoxy-4-[N-(1-(2-piperidino-phenyl)-1-butyl)-aminocarbonylmethyl]-benzoic acid; the enantiomeres thereof or their mixtures; a nontoxic salt thereof formed with an inorganic or organic base; or a non-toxic acid addition salt formed by an inorganic or organic acid with the piperidino function.

9. The compound of claim 5, which is 2-ethoxy-4-[N(1-(2-piperidino-phenyl)-3-methyl-1-butyl)-aminocarbonylmethyl]benzoic acid; the enantiomeres thereof or their mixtures; a non-toxic salt thereof formed with an inorganic or organic base; or a non-toxic acid addition salt formed by an inorganic or organic acid with the piperidino function.

10. The compound of claim 5, which is form (A) of 2-ethoxy-4[N-(1-(2-piperidino-phenyl)-3-methyl-1-butyl)-aminocarbonylmethyl]-benzoic acid, recrystallized from acetone/petroleum ether, having a melting point of 90°C -92°C C.

11. The compound of claim 5, which is form (B) of 2- ethoxy-4[N-(1-(2-piperidino-phenyl)-3-methyl-1-butyl)-aminocarbonylmethyl]-benzoic acid, recrystallized from ethanol/water, having a melting point of 140°C -142°C C.

12. The compound of claim 5, which is form (C) of 2- ethoxy-4[N-(1-(2-piperidino-phenyl)-3-methyl-1-butyl)-aminocarbonylmethyl]-benzoic acid, recrystallized from methanol, having a melting point of 74°C - 85°C C.

13. The compound of claim 5, which is 2-ethoxy-4-[N-(α-cyclohexylmethyl-2-piperidino-benzyl)-aminocarbonylmethyl]-benzoic acid; the enantiomeres thereof or their mixtures; a non-toxic salt thereof formed with an inorganic or organic base; or a non-toxic acid addition salt formed by an inorganic or organic acid with the piperidino function.

14. The (S)-enantiomer or a compound as claimed in any one of the claims 1 to 13; when W is carboxy, a non-toxic salt thereof formed with an inorganic or organic base; or a non-toxic acid addition salt formed by an inorganic or organic acid with the amino function in the R_1-position.

15. A hypoglycemic pharmaceutical composition consisting essentially of an inert pharmaceutical carrier and an effective hypoglycemic amount of a compound of claim 1.